

The opinion in support of the decision being entered today was not written for publication and is not binding precedent of the Board

Paper No. 26

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

MAILED

MAR 31 2003

Ex parte VERONIQUE SARDOY,
GILLES DAHMEN, ISABELLE POISSONNET
ANNE BLANCHARD, PASCAL CHOQUET
AND BERNARD DEBIESME

PAT. & T.M. OFFICE
BOARD OF PATENT APPEALS
AND INTERFERENCES

Appeal No. 2002-1609
Application No. 09/129,238

ON BRIEF

Before GARRIS, PAWLIKOWSKI, and POTEATE, Administrative Patent Judges.

PAWLIKOWSKI, Administrative Patent Judge.

DECISION ON APPEAL

This is an appeal under 35 U.S.C. § 134 from the examiner's final rejection of claims 8-17, 19, and 21.

Claim 8 is representative of the subject matter on appeal, and is set forth below:

8. Process for producing a thin sheet of ultra-low-carbon steel, said process comprising:

-producing a killed and vacuum-degassed steel comprising, by weight, between 0.10 and 0.35% manganese, less than 0.006% nitrogen, less than 0.025% phosphorus, less than 0.020% sulphur, less than 0.02% silicon, a total amount of the elements copper,

nickel and chromium of at most 0.08%, at most 0.006% carbon and at most 0.010% aluminum, iron, and inevitable impurities,

casting the steel in the form of a slab,

-hot rolling the slab at a temperature above Ar3 to obtain a strip of hot-rolled sheet,

-coiling the hot-rolled sheet,

-cold-rolling the hot-rolled sheet into the form of an intermediate cold-rolled sheet,

continuously annealing the intermediate cold-rolled sheet at a temperature between 640°C and 670°C,

rerolling the intermediate cold-rolled sheet down to a final sheet thickness for drawing, wherein said hot-rolled sheet is coiled at a temperature between greater than 530°C to 570°C, and wherein said process provides a sheet of ultra-low-carbon steel comprising at most 0.001% titanium and at most 0.001% niobium and having a Lankford coefficient r_{aver} greater than 1.6.

The examiner relies upon the following reference as evidence of unpatentability:

Fujinaga et al. (Fujinaga) EPO 0 556 834

Aug. 25, 1993

Claims 8-17, 19, and 21 stand rejected under 35 U.S.C. § 103 as being unpatentable over Fujinaga.

On page 3 of the brief, appellants state that the claims do not stand or fall together, and provide arguments in support thereof. We therefore consider each of the claims. 37 CFR § 1.192(c)(7)(2000).

OPINION

We refer to the examiner's position and adopt the examiner's position as our own, and affirm the rejection. Our comments below are for emphasis only. When arguments presented in the brief and reply brief are not specifically addressed below, it is understood that we adopt the examiner's position as our own in response to such arguments.

I. The Art Rejection

a. Claim 8

On page 4 of the brief, appellants argue that a prima facie case of obviousness has not been established with respect to the claimed annealing temperature of "between 640°C to 670°C".

On pages 4-5 of the answer, the examiner points out that appellants' specification, at lines 21 to 25 of page 11, discloses "the continuous annealing carried out at a temperature which is generally 20 to 30°C above the recrystallization temperature of the steel; in the case of the process according to the invention, the annealing temperature is at most equal to 700°C . . .". The examiner states that Fujinaga, at line 20 on page 8, discloses "the annealing temperature may be the recrystallization temperature or above." The examiner concludes that the annealing temperature range of Fujinaga overlaps the annealing temperature range of appellants' claims (from 640°C to 670°C), and therefore a prima facie case of obviousness has been established.

We agree with the examiner's conclusion for the following reasons. Because Fujinaga indicates that the annealing temperature can be the recrystallization temperature of the steel, and because appellants' specification indicates that the

recrystallization temperature of the steel can be from 670 to 680°C, then, Fujinaga's annealing temperature would encompass the range of from 670 to 680°C. Such a temperature range does overlap the claimed range of from 640°C to 670°C. We especially find this to be the case in view of the examiner's position set forth on page 5 of the answer, that Fujinaga discloses in claim 1, on page 12, a steel alloy with constituents having weight percentage ranges that encompass the recited ranges in appellants' claims, and therefore Fujinaga's steels would inherently have recrystallization temperatures within 670 to 700°C (which encompasses from 670 to 680°C), absent evidence to the contrary, which appellants have not provided.

Also in connection with the issue of annealing temperature, Appellants further argue that all of the examples in Table 3 of Fujinaga, except Sample No. 3, fail to meet one or more of the recited limitations of the claims. (brief, page 4-5). We adopt the examiner's position set forth on pages 5-6 of the answer. We also note that Fujinaga's teachings are not limited to the examples, and, as stated above, Fujinaga does suggest the claimed annealing temperature. In this context, we note that a reference is not limited to its examples, but is available for all that it fairly discloses and suggests. See In re Widmer, 353 F.2d 752, 757, 147 USPQ 518, 523 (CCPA 1965).

Hence, we agree with the rejection of claim 8.

b. Claim 9

On page 7 of the brief, appellants argue that claim 9 sets forth an annealing period of less than 3 minutes. The examiner correctly points out on page 7 of the answer that Fujinaga

disclosed in Tables 3 and 4, annealing times of 10 and 20 seconds, which is within appellants' range of less than 3 minutes. Hence, we agree with the rejection of claim 9.

c. Claims 10 and 11

On page 8 of the brief, appellants argue that claim 10 and claim 11 have limitations regarding parameters of reduction ratio for hot or cold working, steel sheet thickness, and annealing time which are not taught by prior art.

The examiner finds that Fujinaga, at lines 5 to 28 on page 3, discloses using steel sheet to produce cans by various techniques such as DRD, similar to appellant. Also, the examiner finds that Table 3 on page 10 of Fujinaga discloses annealing times ranging from 10 to 20 seconds, which is within the 20 seconds recited in claim 10, and is slightly less than the 30 seconds recited in claim 11. Also, the examiner finds that Fujinaga's claim 3 recites temper rolling at a reduction of about 50% or less, which is well within the range of 23 to 31% recited in claim 10, and the range of 2.5 to 17% recited in claim 11. Also, the examiner finds that Fujinaga recites specific examples in Table 3 on page 10 ranging from 2 to 20% which fall within the 2.5 to 17% recited in claim 11. (answer, page 7)

The examiner further states that even though Fujinaga does not teach the reduction ratios for hot or cold working as recited by claims 10 and 11, the examiner states that such would not be a patentable difference because such is well within the skill of the artisan, absent a showing of unexpected results. (answer, pages 7-8)

We agree with the examiner's determinations and findings, and note that where general conditions of the appealed claim are

disclosed in the prior art, it is not inventive to discover optimum or workable ranges by routine experimentation, and appellants have the burden of proving any criticality. In re Boesch, 617 F.2d 272, 276, 205 USPQ 215, 218-19 (CCPA 1980); In re Aller, 220 F.2d 454, 456, 105 USPQ 233, 235 (CCPA 1955).

In view of the above, we therefore agree with the rejection of claims 10 and 11.

d. Claim 12, 15, 16, and 17

On page 9-10 of the brief, appellants argue that Fujinaga does not suggest the aspect of their claimed subject matter wherein the steel is killed by adding a mixture of aluminum and alumina to slag in order to prevent the steel from reoxidizing.

On page 8 of the answer, the examiner correctly indicates that Fujinaga, at lines 36-51 on page 6, discloses an aluminum-killed steel wherein aluminum is incorporated in the steel melt to deoxidize the steel. The examiner states that although using a slag having an adjusted amount of aluminum and alumina is not specifically disclosed, it would be implicit because it is well known in the metallurgical art as a commonly practiced technique to kill and deoxidize steel. Because appellants do not challenge this statement made by the examiner, we sustain the rejection of claim 12. See In re Kunzmann, 326 F.2d 424, 425 n.3, 140 USPQ 235, 236 n.3 (CCPA 1964).

e. Claim 13

On page 9 of the brief, appellants argue that claim 13 additionally requires that the steel is cast in the form of a slab in an inert atmosphere continuous casting plant.

Although the examiner does not specifically address this aspect of claim 13, the examiner groups this claim with claims 12, 15, 16, and 17 when making the determination that these claims reflect commonly practiced techniques. Because appellants do not challenge this statement made by the examiner, we sustain the rejection of claim 13. Id.

f. Claim 19

Appellants argue that claim 19 sets forth a specific range for nitrogen which is not disclosed in Fujinaga, and that therefore claim 19 distinguishes over Fujinaga.

The examiner correctly finds that Fujinaga's claim 1 recites from 0.001 to 0.04% nitrogen, which is within appellants' nitrogen range of from 0.0022 to 0.005%.

Hence, we agree with the rejection of claim 19.

g. Claims 14 and 21

On pages 5-7 of the brief, appellants set forth their position to support their conclusion that the sheet claimed in claims 14 and 21 is distinguishable from the sheets made in Fujinaga. Appellants refer to data throughout their specification in support thereof.

Beginning on page 6 of the answer, the examiner correctly points out that claim 1 on page 12 of Fujinaga discloses an aluminum content of 0.005% or less, and excludes Ti and Nb, and therefore teaches the sheet set forth in appellants' claims 14 and 21. (answer, pages 6-7). We also note that claim 1 of Fujinaga also recites a nitrogen content of from .001 to .04 percent, which falls within appellants claimed range of less than .006. Hence, absent convincing rebuttal evidence, we agree with

the examiner that Fujinaga makes obvious the claimed invention set forth in claim 14.

Turning now to the rebuttal evidence, appellants discuss data (as mentioned above), but we agree with the examiner that this data is insufficient to overcome the obviousness rejection, for the following reasons.

The examiner states that appellants refer to Figures 2A through 2E to establish that the steels of their instant claims produce a grain structure which is more homogeneous and of an equiaxed structure than steels outside the parameters of the steel. However, the examiner correctly points out that the outside parameters are steels containing 0.24% aluminum or more (which is not representative of Fujinaga). The examiner also states that the same applies to appellants discussion of Figures 5A to 5C, and Figure 6, and Table 4, wherein the outside parameters are aluminum and/or carbon. The examiner correctly concludes that the data discussed by appellants is unconvincing because this data is not representative of the invention disclosed in Fujinaga.

We agree with the examiner's comments on appellants' data, and, in support of this determination, we note that rebuttal evidence can be in the form of direct or indirect comparative testing between the claimed invention and the closest prior art. In re Merchant, 575 F.2d 865m 869, 197 USPQ 785, 788 (CCPA 1978); In re Blondel, 499 F.2d 1311, 1317, 182 USPQ 294, 298 (CCPA 1974); In re Swentzel, 42 CCPA 757, 763, 219 F.2d 216, 220, 104 USPQ 343, 346 (1955). We also note that in order to establish unexpected results for a claimed invention, objective evidence of non-obviousness must be commensurate in scope with the claims which the evidence is offered to support. In re Clemens, 622

F.2d 1029, 1035, 206 USPQ 289, 296 (CCPA 1980); In re Greenfield, 571 F.2d 1185, 1189, 197 USPQ 227, 230 (CCPA 1978); In re Lindner, 457 F.2d 506, 508, 173 USPQ 356, 358 (CCPA 1972); In re Tiffin, 448 F.2d 791, 792, 171 USPQ 294, 294 (CCPA 1971). In the instant case, appellants' data fails to meet the burden set out here.

We therefore agree with the rejection of claim 14.

With respect to claim 21, appellants argue that Fujinaga does not suggest the specific plane anisotropy coefficient range set forth in claim 21. However, on page 8 of the answer, the examiner states that the plane anisotropy coefficient would be inherent since the compositional and process limitations are closely met, absent evidence to the contrary. We note that it is well settled that the Patent Office can require appellants to prove that a function or property relied upon for novelty is not possessed by prior art otherwise meeting the limitations of the claims. In re Best, 562 F.2d 1252, 1255, 195 USPQ 430, 433 (CCPA 1977). Because appellants have not provided such a showing, we agree with the rejection of claim 21.


II. Conclusion

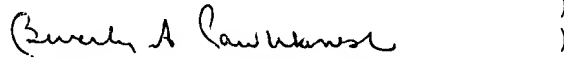
We sustain the rejection of record.

Appeal No. 2002-1609
Application 09/129,238

No time period for taking any subsequent action in
connection with this appeal may be extended under 37 CFR
§ 1.136(a).

AFFIRMED


Bradley R. Garriis)
Administrative Patent Judge)


Beverly A. Pawlikowski)
Administrative Patent Judge)


Linda R. Poteate)
Administrative Patent Judge)

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Appeal No. 2002-1609
Application 09/129,238

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